

Climatological Data for March, 1910.
DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

The month of March was, in this district, as elsewhere throughout the United States, a warm month. While there were no records broken the area under discussion was plainly under the influence of the same general conditions which caused the continued high temperature and deficient precipitation in so many portions of the United States. It has been stated in official publications¹ of the Weather Bureau that—

Probably not within the recorded history of the country has there been a month of the same name (March) with such a long, unbroken series of successive days with the temperature above the normal and at the same time such a persistent absence of precipitation.

Referring to a record extending over a period of 60 years for San Francisco it appears that the most noticeable feature of the month was a period of 13 days of dry, warm weather, during the first half of the month. The latter half of the month was of an entirely different character. Not in many years has a similar condition existed. In the year 1851 there were 17 consecutive days without rain, and in the year 1861 there was no rain from the 1st of the month until the 23d. There has never been a rainless March recorded. The type of March most opposed to the current month was in 1907, when there were but 5 consecutive days without rain; these occurring during the last decade.

It may be remarked in passing that from the forecaster's point of view the month was not a difficult one. There were no unusual or unexpected storm developments.

The average total precipitation for the district based upon the records of 189 stations was 3.22 inches, or 0.75 inch below the normal. The mean temperature determined from the records of 190 stations was 54.7° or 3.5° above the normal. With the exception of March, 1908, the rainfall was the smallest recorded for the State for a period of 6 years. For the sake of comparison the following table is given:

	Inches.
1904.....	8.52
1905.....	5.42
1906.....	9.19
1907.....	10.67
1908.....	1.49
1909.....	3.56
1910.....	3.22

It should be noted that the decrease in rainfall was most marked in the mountain sections and foothills and where the rain is ordinarily heaviest. For example, in the Sierras there was a deficiency of from 40 to 60 per cent. At elevations of 5,000 feet and over the snow covering diminished rapidly between the 1st and the 15th of the month and was probably of less depth than for many years. Unfortunately there are no records at heights above 8,000 feet.

The precipitation was above the normal along the coast, from Point Conception to Cape Mendocino. The usual condition is that when rains are heavy and frequent along the coast south of Cape Mendocino there is an extension of the rain area south of the Santa Barbara Channel. This, however, was not the case this year. While rain fell the amount was less than might reasonably have been expected.

The temperature, as stated above, was much above the normal. Not since 1905 has there been so warm a March. The mean temperatures for the State are as follows:

1904.....	51.1°
1905.....	54.7°
1906.....	50.8°
1907.....	49.0°
1908.....	51.8°
1909.....	48.5°
1910	54.7°

The first decade of the month was a succession of pleasant, moderately warm days. The third decade and the last half of the second decade were cloudy with neither high nor low temperatures. There were no severe cold spells during the month and comparatively few frosts. There was much more than the usual duration of sunshine. Along the coast there was less than the usual amount of fog. There was some tule fog in the bay sections during the early morning hours, interfering slightly with ferry service. The general flow of the surface air during the first half of the month was from the west or north. During the latter half of the month the prevailing direction was southwest.

TEMPERATURE.

The highest temperature reported was 102° at San Jacinto. The lowest temperature was 25° at Macdoel. At Brawley, on 6 dates during the first 8 days the maximum temperature was above 90°, reaching 95° on 3 occasions. On the other hand, on only 5 dates did the minimum temperature fail to reach 55°. In the Great Valley temperatures throughout the month were moderate. Not once did the maximum temperature exceed 80° in the Sacramento Valley, while in the San Joaquin there were only 4 dates when this temperature was passed. From an agricultural standpoint, temperatures throughout the State were most favorable for the growth of cereals and the blossoming of fruit trees.

PRECIPITATION.

The greatest 24-hour rainfall was 3.60 inches, at Boulder Creek, on the 22d. At many stations on the 20th, 21st, and the 22d an inch of rain fell during each day of the period. The greatest monthly rainfall was 10.88 inches at Los Burros mines. No rain fell at 3 stations.

SNOWFALL.

There was a steady decrease in the depth of the snowfall during the first 20 days. Not in many years has there been so light a covering at the middle of March. Although moderately heavy snow fell during the last 2 weeks of March, still at the close of the month there was less than one-half the normal amount of snow on the ground. The snow did not pack well and the water supply is somewhat uncertain. At many stations the total snowfall during the month of March was only about 30 per cent of the fall during March, 1909.

SACRAMENTO AND SAN JOAQUIN WATERSHEDS, MARCH, 1910.

Sacramento watershed.—The gage readings averaged nearly 1 foot higher than for the corresponding month of 1909. Owing to the rapidly melting snows in the higher altitudes the run-off of the small streams that drain the Sierras was much greater than usual during the month of March, and resulted in keeping the Sacramento River above the normal stage even during the first half of the month, which was practically rainless. General rains from the 19th to 22d, inclusive, throughout the watershed caused substantial rises during this period from Red Bluff to the mouth of the Feather, on the Sacramento, and in the Yuba River above Marysville, but there were no threatening stages reported from any point in the valley.

From 20 to 25 inches of snow fell in the greater elevations of the mountains during the first part of the last decade, but, joined with the old snow, already soggy and honeycombed, the total amount rapidly reduced, and at the close of the month there was less on the ground than is usual during the month in question. This was especially so in the Feather-Yuba headwaters, and in all but the extreme elevations of the American River district,

¹National Monthly Weather Bulletin.

At the close of the month there was considerably less water in the flood basins of the Sacramento than usual.

There appears to be a marked shortage in the available water supply, and conditions seem to indicate that all streams in the Sacramento watershed will be abnormally low during the coming summer.

San Joaquin watershed.—The rivers of the San Joaquin watershed were uniformly above the stage usually recorded during the month of March, having been the highest of any March since that of 1907, when floods were general. Rapid rises were reported from most of the tributaries of the San Joaquin River on the 23d, due to heavy rains that were general over the entire watershed from the 20th to 23d, and, as a result, the San Joaquin River itself below Lathrop, maintained a reasonably high stage during the last 10 days of the month. There were no damaging freshets or overflows during the month.

The visible water supply for the San Joaquin watershed seems much below the normal for the month, and from all reports it is safe to state that there will be a shortage of water during the months of August and September.—*N. R. Taylor.*

Doctor Manson reports that the average daily discharge at Lake Eleanor in second-feet has been as follows: December, 358; January, 288; February, 174; March, 494.

Mr. W. W. Schlett, of Orland, Cal., reports:

The status of the work on the East Park Dam will not permit the storage of any water during this season, consequently the lands of the Orland Project will be irrigated as much as possible from the natural flow of Stony Creek.

Mr. A. H. Bell, of the Weather Bureau at Eureka, reports that on March 18, 1910—

Quite a heavy earthquake shock occurred at 4:11 p. m. The vibrations were from southeast to northwest and continued without cessation for about 49 seconds. This was probably the longest earthquake shock ever felt in this city, and while no damage was done, its unusual length frightened many people. So far as can be learned the shock was felt throughout the county east of the foothills, more distinctly in the south than in the north. Barometer, 29.83; temperature, 53°; cloudy; wind, southwest, 11 miles per hour.

The operator at Laytonville says that the shock was felt at Willits, but advices from San Francisco are to the effect that the tremor did not reach that far south.

THE SAN FRANCISCO EARTHQUAKE OF APRIL 18, 1906.

Prof. A. C. Lawson has submitted to the Seismological Society of America the following note:

The most important fact brought to light by the investigation of the California earthquake of April 18, 1906, is the condition of stress which existed in the earth's crust antecedent to the rupture which produced the shock. The stress seems to have been effective as a slow tortional creep of the coastal portion of the Middle Coast Ranges toward the northwest. It was relieved by a fault rupture along the San Andreas Rift at the time of the earthquake, the fault-trace being certainly 190 miles and probably 270 miles in length. The relief was effected by a forward or northwestly movement of the portion of the earth's crust lying to the southwest of the fault and a resilience, or backward movement, to the southeast of the portion lying to the northeast of the fault, the maximum horizontal relative displacement being 21 feet. The fact that similar displacements have repeatedly occurred along the San Andreas Rift in time past is warrant for the belief that the stress operative in the earth's crust up to April 18, 1906, was only temporarily relieved by the fault of that date, that the stress is a secular condition of the region, and that the creep of the earth's crust which it induced will be renewed and will accumulate until it is again relieved at some future time by a rupture similar to that which occurred in 1906.

In view of this conclusion it is a matter of the utmost importance to geological science that the phenomena which such creep presents should be most carefully studied. Such a study will doubtless extend through decades and generations owing to the slowness of the movement, and we can scarcely hope in our time to fully understand it. We may, however, attack the problem in the hope and reasonable expectation of arriving at results which will be of service to humanity. The first step toward this end is the determination of the distribution of the stress as manifested by the slow creep of the region, and the measurement of its amount. This, in the opinion of your committee, may be best accomplished by the establishment of a series of monuments extending out in a direction approximately normal to the San Andreas Rift at suitable localities, and determining their relative positions by careful survey from time to time. Each line of monuments should extend out, where possible, for at least 20 miles on either side of the rift and be composed of stable concrete piers spaced not more than 2 miles apart. In the opinion of the committee there should be at least 3 lines of monuments, one to be located near the head of Tomales Bay, one near the south end of the Bay of San Francisco, and one crossing the rift where it traverses the south side of the Mojave Desert.

The cost of installing these monuments and establishing their positions in the first instance would be about \$5,000. Your committee recommends that the society make an effort to secure the money necessary for this purpose, believing that no more important or more permanent contribution could be made at the present time to that branch of the science of the earth for which the society stands.

TABLE 1.—Climatological data for March, 1910. District No. 11, California.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Number of rainy days, 0.1 inch or more.	Number of clear days.	Number of partly cloudy days.	Prevailing wind direction.	Observers.	
				Mean.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Greatest in 24 hours.	Total snowfall unmelting.						
Oregon.																	
Klamath Agency.	Klamath.	4,169	2	43.6	69	11†	22	26†	43	0.00	0.00	0.0	0	22	2	s.	
Klamath Falls	do.	4,250	15	43.7 + 4.2	68	11†	23	29	42	0.53	- 1.07	0.29	0.0	6	13	1	nw.
Lakeview	Lake.	4,800	7	42.4 + 5.3	71	14	19	25†	42	0.00	- 2.07	0.00	0	20	7	s.	
Merrill	Klamath.	4,070	4	42.2	70	12	30	29	42	0.07	0.05	0.5	2	17	9	s.	
Yonna	do.	3	43.6	76	14	17	6	40	0.58	0.34	1.5	4	3	27	1	s.	
California.																	
Alameda.	Alameda.	1	55.4	80	2	40	24	2	3.00	0.50	0.0	0	9	9	6	s.	
Alturas.	Modoc.	4,480	6	44.9	72	11†	19	29	48	0.43	0.22	3.0	7	13	13	sw.	
Anderson (near)	Shasta.	550	1	57.0	80	10†	33	24	34	3.89	1.19	0.0	8	21	5	s.	
Angiola.	Tulare.	208	10	56.6 + 1.6	87	12	35	14†	50	1.45	+ 0.21	0.47	0	4	21	3	s.
Antioch.	Contra Costa.	46	31	59.2 + 4.8	71	2†	41	4	1.41	- 0.56	0.42	0.0	7	21	0	Do.	
Aptos.	Santa Cruz.	102	25	53.5 + 0.2	69	31	40	24	4.38	+ 0.60	0.84	0.0	12	8	8	Southern Pacific Co.	
Arrowhead Springs.	San Bernardino.	2,000	1	53.5	72	15	30	24	37	3.82	- 0.44	0.85	0.0	15	w.	Do.	
Auburn.	Placer.	1,380	39	53.8 + 2.1	73	30	41	24	27	3.82	- 0.44	0.85	0.0	8	9	14	G. I. Royce.
Avalon.	Los Angeles.	57.1	—	83	31	46	27	28	1.64	0.80	0.0	6	11	14	Do.		
Asusa.	do.	540	8	60.4	98	3	38	11	51	2.60	- 1.64	1.08	0.0	6	21	4	Do.
Bagdad.	San Bernardino.	784	7	70.6	90	3†	46	27	32	0.00	0.00	0.0	0	0	0	Do.	
Bakersfield.	Kern.	404	21	62.8 + 4.9	88	12	38	25	37	1.20	+ 0.27	0.39	0.0	5	10	2	C. S. Richardson.
Barstow.	San Bernardino.	2,105	7	58.4	88	4	34	10†	43	0.30	0.28	0.0	2	21	0	Santa Fe Co.	
Berkeley.	Alameda.	317	23	53.8 + 2.1	73	30	41	24	27	3.82	- 0.44	0.85	0.0	8	9	14	Do.
Biggs.	Butte.	98	11	53.0	82	10	32	23	38	0.78	- 0.70	0.46	3.0	4	24	7	Do.
Bishop.	Inyo.	4,450	15	52.0	78	10	30	24	33	4.24	0.71	0.0	11	6	10	15	W. A. Chalfant.
Blacksburg.	Humboldt.	1,700	4	48.0 + 8.4	68	14	24	25	30	5.88	- 9.34	1.70	0.0	6	19	1	Victor Hope.
Blue Canyon.	Placer.	4,695	11	56.7	95	5	38	23†	51	0.02	0.02	0.0	1	26	3	Do.	
Blythe.	Riverside.	1	65.2	85	9	25	24	52	4.49	- 8.11	0.99	0.0	10	18	3	H. V. Blenkiron.	
Branscomb.	Mendocino.	2,000	10	50.1	95	3	40	29	46	0.06	0.06	0.0	1	19	11	A. J. Haun.	
Brawley.	Imperial.	105	1	66.4	76	9†	30	25	42	5.91	1.67	0.0	10	16	8	U. S. Weather Bureau.	
Brush Creek.	Butte.	2,140	6	49.4	94	3†	44	27	40	0.04	0.04	0.0	1	26	3	Cal. Gas & Electric Co.	
Calexico.	Imperial.	0	58.0	83	10	44	28	2	3.33	+ 0.45	0.75	0.0	5	22	6	J. E. Peck.	
Caliente.	Kern.	1,290	34	64.0 + 8.0	85	8†	40	25†	51	5.01	- 0.03	1.48	0.0	7	15	9	Southern Pacific Co.
Calistoga.	Napa.	363	38	57.0 + 3.5	83	8†	40	25†	51	5.01	- 0.03	1.48	0.0	7	15	9	Do.
Campbell.	Santa Clara.	217	13	53.8 + 2.7	75	2†	35	28	39	2.67	- 0.92	0.53	0.0	11	15	11	F. M. Righter.
Camptonville (near).	Yuba.	3,500	3	53.0	82	10	32	23	38	7.65	2.51	0.0	12	16	0	S. B. Johnson.	
Cedarville.	Modoc.	4,675	16	45.7 + 8.4	70	13†	24	24	39	0.78	- 0.70	0.46	3.0	4	24	7	T. H. Johnstone.
Chico.	Butte.	189	40	57.0 + 1.4	80	10	34	24†	41	3.82	+ 0.92	1.03	0.0	8	19	3	Butte County R. R. Co.
China Flat.	Humboldt.	600	1	56.7	83	31	36	6	43	1.49	0.65	0.0	8	9	16	O. I. Westerborg.	
Chino.	San Bernardino.	714	18	56.1 + 0.5	88	2	40	4†	47	2.59	- 0.73	1.00	0.0	7	21	1	Southern Pacific Co.
Cisco.	Placer.	5,939	39	40.6 + 7.2	52	21	21	28	38	4.20	- 3.79	1.80	42.0	7	21	0	Do.
Claremont.	Los Angeles.	1,200	18	58.7 + 5.7	90	1†	38	7	40	2.57	- 0.93	1.21	0.0	11	15	11	F. P. Brackett.
Cloverdale.	Sonoma.	340	8	55.8	83	8	35	24	43	6.70	1.60	0.0	9	18	7	Do.	
Colfax.	Placer.	2,421	39	51.4 + 2.3	77	11	30	25†	31	6.61	- 0.65	2.50	0.0	6	16	0	Lloyd Browne.
Colusa.	Colusa.	60	7	56.4	77	9	38	23†	34	2.77	- 0.21	0.98	0.0	5	11	5	Southern Pacific Co.
Corning.	Tehama.	277	24	60.7 + 8.1	80	2†	43	24	34	3.54	+ 0.98	1.03	0.0	7	20	0	W. K. De Jarnatt.
Cuyamaca (1).	San Diego.	4,677	11	49.2 + 9.3	74	3†	28	27	32	5.19	- 1.21	1.48	15.0	10	16	5	Southern Pacific Co.
Daunt.	Tulare.	4,000	3	51.2	78	10	28	24†	41	3.34	0.65	6.00	0	8	12	L. L. Macquarie.	
Davisville.	Yolo.	51	38	54.0 - 2.2	79	9	28	22	40	2.57	+ 0.37	1.10	0.0	6	13	1	D. L. Wishon.
Deer Creek.	Nevada.	3,700	3	45.8	69	10†	26	25	37	9.85	2.98	0.0	12	11	8	S. H. Beckett.	
Delta.	Shasta.	1,138	25	53.0	78	10	32	29	43	2.21	- 0.36	0.76	0.0	8	18	7	Cal. Gas & Electric Co.
Denair.	Stanislaus.	126	10	57.6 + 3.9	80	5†	38	71	41	3.00	+ 0.32	0.53	0.0	9	18	8	Southern Pacific Co.
Dobbins.	Yuba.	1,650	6	57.8	86	9	38	25	34	4.52	2.00	0.0	11	12	7	Santa Fe Co.	
Dudleys.	Mariposa.	3,000	1	48.6	75	10	28	26	40	5.00	1.33	4.0	0	13	16	12	Cal. Gas & Electric Co.
Dunnigan.	Yolo.	65	33	61.0 + 6.0	76	10†	43	27	47	2.18	- 0.22	0.70	0	6	14	7	W. H. Dudley.
Dunsmuir.	Siskiyou.	2,285	21	49.3 + 4.9	77	30	34	24†	37	4.39	- 0.68	1.01	0.0	9	18	13	Southern Pacific Co.
Durham.	Butte.	160	15	55.8 + 4.7	80	2†	35	28	40	3.32	+ 0.52	1.21	0.0	6	17	3	R. W. Durham.
El Cajon.	San Diego.	482	11	57.8 + 2.1	83	8	36	29	43	2.21	- 0.36	0.76	0.0	8	20	7	H. H. Kessler.
Electra.	Amador.	725	6	58.8	80	12	42	24†	33	4.58	1.60	0.0	8	15	8	Cal. Gas & Electric Co.	
Elsinore.	Riverside.	1,234	15	57.5 + 1.2	91	11†	28	24	52	5.19	- 0.39	0.88	0.0	2	11	1	W. H. Bohannon.
Emigrant Gap.	Placer.	5,230	36	42.1 + 4.4	74	7	26	15†	44	4.22	- 4.30	1.40	28.0	7	19	0	Southern Pacific Co.
Escondido.	San Diego.	657	19	58.6 + 4.3	88	2†	35	29†	48	1.82	- 0.03	0.72	0.0	7	21	3	A. R. Moon.
Eureka.	Humboldt.	64	24	40.6 + 1.6	66	17	35	24	49	1.97	- 4.21	0.68	0.0	14	4	9	U. S. Weather Bureau.
Farmington.	San Joaquin.	111	31	56.9 + 3.0	74	16	38	24†	37	3.70	+ 1.21	1.02	0.0	10	15	7	Southern Pacific Co.
Folsom.	Sacramento.	2,652	38	57.4 + 1.9	80	9	38	25	33	3.55	+ 0.04	0.90	0.0	8	19	2	F. O. Hutton.
Fordyce Dam.	Nevada.	6,500	15	59	1	10	28	44	74	7.42	- 6.03	2.18	0.0	9	11	7	E. E. Roening.
Fouts Springs.	Colusa.	1,650	6	53.1	75	8	29†	24†	44	4.99	2.32	1.0	0	7	11	8	H. S. Green.
Fresno.	Freano.	293	23	50.8 + 4.9	84	12	38	24	35	1.28	- 0.04	0.44	0.0	7	11	12	U. S. Weather Bureau.
Fruto.	Glenn.	624	21	54.9 + 2.0	75	9†	36	23†	47	5.15	+ 2.71	1.70	0.0	7	21	0	Southern Pacific Co.
Galt.	Sacramento.	49	32	57.2 + 2.0	80	29	35	26†	47	2.52	- 0.35	1.00	0.0	5	10	12	Do.
Georgetown.	El Dorado.	2,650	37	52.1 + 0.2	76	3	32	23†	35	6.86	- 2.56	2.08	0.0	12	16	0	H. D. Jerrett.
Gilroy.	Santa Clara.	193	36	57.6 + 3.9	85	10	40	9†	41	3.07	+ 0.03	0.80	0.0	12	16	1	Southern Pacific Co.
Gold Run.	Placer.	3,222	11	52.5 + 7.7	77	13	32	22†	30	6.65	- 6.26	1.95	T.	8	17	3	Do.
Gonzales.	Monterey.	127	11	54.2 + 3.7	92	2	37	24	41	2.28	- 0.26	0.83	0.0	0	10	15	F. R. Hull.
Grass Valley.	Nevada.	2,690	38	51.8	75	9†	31	25	31	6.33	- 1.32	2.41	0.0	9	12	14	C. H. Higbie.
Greenville.	Plumas.	3,600	16	46.4 + 7.9	72	12†	24	6	45	3.98	- 3.69	1.34	1.5	6	14	11	H. S. Richardson.
Groveland.	Tuolumne.	2,828	1	49.7	72	10	31	23†	30	4.53	- 0.99	0.0					

TABLE 1.—Climatological data for March, 1910. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.			Highest.	Lowest.	Date.	Date.	Greatest daily range.	Total.	Departure from the normal.			Greatest in 24 hours.	Total snowfall unmetted.	Number of rainy days, .01 inch or more.	Number of clear days.	
					Highest.	Lowest.	Date.							Highest.	Lowest.	Date.					
<i>California—Cont'd.</i>																					
Lone Pine	Inyo	2,728	5	53.2	.....	79	8	27	25†	42	0.63	.....	0.38	0.0	3	20	10	1	s.	G. F. Marsh.
Long Valley	Lassen	4,400	1	45.7	.....	69	17	24	25	38	0.83	.....	0.25	T.	9	10	9	12	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	33	59.0	+ 3.4	86	2	41	27	29	1.86	+ 1	1.12	0.92	0.0	5	11	7	13	sw.	S. Weather Bureau.
Los Banos	Merced	121	23	59.0	+ 3.2	75	11†	50	54†	2.03	+ 0.92	0.45	0.0	0	6	15	0	16	w.	Southern Pacific Co.	
Los Gatos	Santa Clara	600	23	57.0	+ 5.2	80	31	36	12†	42	4.28	+ 0.57	1.42	0.0	11	15	12	4	n.	F. H. McCullagh.	
Lytle Creek	San Bernardino	2,900	1	53.7*	.....	85 ^b	3	30†	24†	43†	2.78	.....	1.40	0.0	6	14	10	7	....	W. E. Anderson.
Macdoel	Siskiyou	4,258	3	35.4	.....	70	11	6	25	50	0.34	.....	0.15	1.5	3	9	15	7	s.	Butte Valley L'd Co.
Madeline	Lassen	5,270	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	J. H. Williams.
Magalia	Butte	2,321	6	49.4	.....	77	10	29	27†	41	8.10	.....	2.02	0.0	8	20	2	9	s.	Butte County R. R. Co.
Mammoth Tank	Imperial	257	32	63.3	+ 2.1	95	5	42	29	43	0.07	- 0.12	0.06	0.0	2	28	0	3	w.	Southern Pacific Co.	
Marysville	Yuba	67	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	A. Lunsted.
Mecca	Riverside	- 185	4	66.8	.....	95	2	40	26†	47	0.00	.....	0.00	0.0	0	22	9	0	se.	Southern Pacific Co.
Menlo Park	San Mateo	64	32	55.5	+ 2.1	74	31	40	24†	2.49	- 0.13	0.68	0.0	6	13	0	18	n.	Santa Fe Co.		
Merced	Merced	173	36	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	Cal. Gas & Electric Co.
Mill Creek (1)	Amador	3	40.5	.....	.....	72	9†	33	25	34	5.94	.....	2.68	1.0	11	11	8	12	s.	J. H. Southwick.
Milton (near)	Calaveras	660	19	57.0	+ 3.0	74	10†	41	24	23	3.50	- 0.48	1.30	0.0	8	15	7	9	w.	Southern Pacific Co.	
Modesto	Stanislaus	90	38	60.1	+ 4.2	78	31	41	14	2.80	- 1.43	0.85	0.0	5	18	0	13	....	C. E. Prindle.	
Mojave	Kern	2,751	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	H. Lathrop.
Mokelumne Hill	Calaveras	1,550	17	55.0	+ 8.2	77	12	36	24	24	5.09	- 0.51	1.10	0.0	9	16	1	14	....	G. H. Chambers.
Mono Ranch	Ventura	3,210	4	49.6	.....	78	3	26	26	41	3.58	.....	1.25	5.0	5	13	11	7	w.	Southern Pacific Co.
Montague	Siskiyou	2,450	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	C. E. Bailey.
Monterey	Monterey	15	45	56.1	+ 2.2	68	30†	44	23	33	1.13	+ 0.48	1.22	0.0	8	16	12	3	sc.	S. W. Marsh.	
Monterio	Kern	4,500	11	51.0	+ 0.7	72	19	32	23†	26	1.25	- 2.94	0.35	0.0	7	12	7	12	nw.	George D. Kellogg.	
Monumental	Del Norte	5	46.6	.....	.....	78	11†	28	23	42	3.22	.....	0.90	0.0	8	18	1	12	....	G. F. Morgan.
Mount Tamalpais	Marin	2,375	11	50.8	+ 2.7	70	10	34	23	24	3.35	- 1.78	0.94	0.0	12	11	7	13	nw.	U. S. Weather Bureau.	
Napa City	Napa	20	33	55.0	+ 3.2	79	31	35	28	38	4.09	+ 0.36	1.12	0.0	9	14	11	6	s.	Thomas Hull.	
Napa (S. H.)	do	60	32	57.8	+ 6.0	81	9	30	28	35	3.59	- 0.11	0.94	0.0	11	10	10	11	sw.	W. H. Martin.	
Needles	San Bernardino	477	18	68.2	+ 3.4	96	51†	44	17	47	0.11	- 0.10	0.11	0.0	1	29	1	1	sw.	Santa Fe Co.	
Nellie	San Diego	5,350	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	C. E. Prindle.
Nevada City	Nevada	2,580	18	50.4	+ 6.2	77	10	27	25	42	6.61	- 1.79	2.64	T.	11	13	11	7	sw.	G. H. Chambers.	
Newcastle	Placer	970	17	63.2	+ 12.2	85	31	38	25	45	4.36	- 0.18	1.72	0.0	10	11	14	6	nw.	Southern Pacific Co.	
Newhall	Los Angeles	1,200	33	54.8	+ 0.7	92	3	38	27†	2.55	- 0.26	0.93	0.0	4	21	0	10	se.	E. S. Wangenheim.		
Newman	Stanislaus	91	21	58.6 ^d	+ 2.5	79 ^d	10	39 ^d	22	35 ^d	2.60	+ 0.85	0.59	0.0	10	18	0	13	n.	Cal. Gas & Electric Co.	
Nimshew	Butte	2,500	6	50.1	.....	75	9	30	24	38	6.76	.....	1.31	T.	11	15	6	10	....	W. G. Shand.
North Bloomfield	Nevada	3,200	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	G. H. Shinn.
North Fork	Madera	3,000	6	51.7	.....	76	10†	29	27	40	2.69	.....	0.82	0.0	8	8	7	16	w.	Southern Pacific Co.
Oakdale	Stanislaus	156	16	56.7	+ 4.0	76	9	41	25†	32	3.28	+ 0.91	1.11	0.0	10	18	6	7	....	Chabot Observatory.
Oakland	Alameda	38	34	55.1	+ 2.1	72	9†	42	28†	26	3.66	- 0.10	0.83	0.0	9	10	10	11	w.	H. D. Brodie.	
Oceanside	San Diego	50	3	50.3	.....	78	30	44	28	27	1.76	.....	0.98	0.0	7	5	18	8	....	W. H. Duncan.
Ojai Valley	Ventura	900	4	56.8	+ 2.2	88	2	31	26	47	2.84	.....	1.34	0.0	6	13	13	5	sw.	W. H. Patch.
Orland	Glen	254	28	57.3	+ 1.6	81	10	36	22†	35	3.40	+ 1.23	1.00	0.0	8	18	9	4	n.	Fred T. Hale.	
Orleans	Humboldt	520	7	60.0	.....	88	12	35	25	47	3.40	.....	0.35	0.0	9	19	9	12	....	E. D. Fairchild.
Oroville (near)	Butte	250	26	56.4	+ 0.6	80	10†	36	8†	42	2.72	- 0.72	1.30	0.0	5	18	1	12	....	Miss Hettie Boalt.
Palermo	do	213	19	56.6	+ 3.8	86	9	35	7†	41	2.75	+ 0.21	1.05	0.0	5	17	7	7	n.	Southern Pacific Co.	
Palm Springs	Riverside	584	21	66.1	+ 1.0	94	31	47	27	T.	0.35	0.0	0.0	0	0	15	12	4	w.	E. R. Sorver.	
Pasadena	Los Angeles	827	20	57.6	+ 3.2	90	2	36	28	41	2.56	- 1.12	0.95	0.0	10	20	9	2	sw.	Dr. F. W. Sawyer.	
Paso Robles	San Luis Obispo	800	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Do.	E. H. Parnell.
Peachland	Sonoma	190	14	54.0	+ 2.2	82	9	33	24†	42	5.79	+ 0.64	1.24	0.0	10	16	5	10	sw.	Tuolumne W. P. Co.	
Penstock Camp	Tuolumne	3,750	3	51.0	.....	76	10	32	21†	27	5.63	.....	1.40	4.5	11	12	5	9	....	A. Baring-Gould.
Placerville	El Dorado	1,875	21	51.2	+ 4.9	71	10	32	25	30	5.76	- 1.72	1.02	0.0	7	17	5	9	....	John Hyslop.
Point Lobos	San Francisco	250	17	55.3	+ 5.2	74	9	44	27	24	3.38	+ 0.23	1.07	0.0	11	4	8	19	uw.	U. S. Weather Bureau.	
Point Reyes	Marin	490	18	50.3	+ 0.7	88	9	43	12	22	4.02	+ 0.27	1.16	0.0	10	8	6	17	uw.	Harry E. Cowie.	
Porterville	Tulare	464	21	50.8	+ 2.8	88	30	36	24	43	1.96	+ 0.57	0.68	0.0	6	12	14	5	....	D. N. Rogers.
Quincy	Plumas	3,400	15	45.7	+ 4.7	85	13	22	25†	56	2.52	- 6.26	1.45	2.0	6	19	3	9	sw.	U. S. Weather Bureau.	
Red Bluff	Tehama	307	33	57.7	+ 3.9	80	9	37	24	30	3.36	+ 0.69	1.36	0.0	6	14	9	11	nw.	E. L. Bassett.	
Redding	Shasta	552	35	57.8	+ 4.0	78	9†	35	23	47	3.44	+ 0.02	1.87	0.0	8	15	5	11	n.	Paul W. Moore.	
Redlands	San Bernardino	1,352	17	58.6	+ 3.9	89	11†	36	27	43	1.57	- 1.06	0.47	0	7	13	11	7	....	Santa Fe Co.
Reedley	San Bernardino	347	10	50.5	+ 2.9	85	11†	36	24	39	1.52	- 0.36	0.45	0.0	5	17	3	11	n.	So. California Edison Co.	
Rialto (near)	Riverside	851	28	59.2	+ 3.3	92	2	37	21†	55	1.73	- 0.23	0.04	0.0	5	14	2	14	n.	C. W. Barton.	
Riverside	Placer	249	38	57.7	+ 2.8	90	12	38	7†	47	2.52	- 0.48	1.05	0.0	6	15	2	14	n.	Southern Pacific Co.	
Roherville	Humboldt	75	7	62.5	.....	74	15	33	27	39	2.64	.....	0.51	0.0	8	10	12	9	n.	Dr. R. Callahan.
Sacramento (1)	do	35	57	57.4	+ 2.6	75	9†	40	28	30	3.51	+ 0.65	1.58	0.0	7	14	6	11	uw.	S. H	

TABLE 1.—*Climatological data for March, 1910. District No. 11—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, 0.01 inch or more.	Sky.		
<i>California—Cont'd.</i>																		
Summit.	Placer.	7,017	37	37.8	+ 6.4	53	18	18	25	19	4.98	- 3.07	1.90	42.0	10	15	1	15 sw.
Susanville.	Lassen.	4,175	21	44.3	+ 4.7	68	18†	22	24	35	1.20	- 1.50	0.57	0.0	8	12	16	3 sw.
Tamarack.	Alpine.	8,000	4	36.8	.....	64	7†	11	23	47	3.37	.....	0.90	31.0	10	14	7	10 sw.
Tehachapi.	Kern.	3,964	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tehama.	Tehama.	220	39	69.2	+ 13.3	89	30	54	24	.....	3.23	+ 0.88	1.00	0.0	7	21	0	10 n.
Three Rivers.	Tulare.	870	.....	57.8	.....	.....	.....	36	24	41	2.02	.....	0.55	0.0	8	11	13	7 sw.
Towle.	Placer.	3,704	24	47.0	+ 2.4	72	10	28	14†	38	6.84	- 1.15	1.78	3.0	9	18	3	10 n.
Tracy.	San Joaquin.	64	30	53.0	- 1.8	66	8	38	7	.....	.....	.....	0.0	6	13	6	12	ne.
Ukiah.	Mendocino.	620	17	54.5	+ 4.3	84	12	30	24†	46	2.60	- 2.23	1.26	0.0	6	14	12	5 nw.
Upland.	San Bernardino.	1,750	13	56.8	+ 3.6	88	2†	36	27†	42	2.35	- 2.91	1.30	0.0	4	19	8	4 w.
Upper Lake.	Lake.	1,350	25	52.6	+ 2.2	79	11	31	24	37	3.43	+ 0.29	0.77	0.0	9	18	3	10 se.
Vacaville.	Solano.	175	22	56.1	+ 1.8	81	10	35	24	40	6.82	+ 3.03	3.19	0.0	9	14	13	4 sw.
Valley Springs.	Calveras.	673	21	60.8	+ 6.5	78	10†	46	25	.....	3.85	- 0.24	1.04	0.0	9	13	5	13 nw.
Visalia.	Tulare.	334	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Warner Springs.	San Diego.	3,165	3	50.0	.....	88	3	31	28	47	2.67	.....	1.38	5.5	5	.....	.....	.....
Wasco.	Kern.	336	10	51.6	- 4.3	75	4†	33	1†	48	0.68	- 0.38	0.25	0.0	4	23	2	6
Watsonville.	Santa Cruz.	23	14	55.8	+ 0.7	82	30	39	9	39	2.79	- 0.83	0.63	0.0	10	5	15	11 sw.
Westley.	Stanislaus.	90	21	56.2	- 1.6	78	11	42	7†	.....	3.02	+ 1.48	0.90	0.0	7	12	0	19
Wheatland.	Yuba.	84	23	56.0	+ 3.1	78	10	39	25	33	3.23	+ 0.45	1.61	0.0	7	12	10	9 n.
Willows.	Glenn.	136	31	55.9	+ 1.3	75	9	37	23†	35	3.62	+ 1.96	1.35	0.0	7	22	2	7 n.
Yosemite.	Mariposa.	3,945	6	47.2	.....	74	9	34	24	48	2.44	.....	0.84	7.0	9	14	10	7 sw.

*, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

Data are from standard instruments not supplied by the U. S. Weather Bureau.

§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

Estimated by observer.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for March, 1910. District No. 11, California.*

TABLE 2.—*Daily precipitation for March, 1910. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for March, 1910. District No. 11—Continued.*

TABLE 2—*Daily precipitation for March, 1910. District No. 11—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations for March, 1910. District No. 11, California.

Date.	California.																											
	Lakewood, Oreg.		Alturas.		Bartow.		Brentwood.		Brayley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	55	30	58	35	79	42	70	43	88	46	69	44	50	50	71	47	73	37	85	56	65	51	76	38	75	47	60	51
2...	54	30	63	30	82	43	68	40	94	49	71	46	56	48	77	48	74	40	86	57	67	57	76	38	64	45	75	52
3...	56	30	62	28	83	45	65	36	95	50	72	47	51	46	78	51	76	40	85	62	64	52	77	37	79	48	72	50
4...	51	26	59	27	88	45	65	35	95	50	70	50	54	46	77	48	80	39	80	52	56	45	72	36	79	50	70	51
5...	50	27	60	29	83	45	62	38	95	49	73	50	50	44	72	46	78	38	68	43	53	43	71	33	76	50	70	51
6...	56	28	66	25	83	41	68	32	88	48	68	41	48	42	73	47	76	40	65	50	61	52	73	33	74	46	69	44
7...	55	27	62	24	80	41	70	31	90	79	73	41	51	37	73	44	76	40	60	49	62	51	74	33	77	45	75	45
8...	58	29	60	25	79	43	76	33	91	48	75	41	52	45	74	45	76	46	61	50	64	50	72	33	75	43	76	56
9...	58	20	61	25	66	36	85	33	87	45	77	47	53	46	78	50	71	44	64	53	66	50	75	38	79	49	80	60
10...	63	23	70	24	77	34	81	35	84	49	75	44	61	43	82	47	72	42	69	50	70	58	77	36	82	48	80	54
11...	66	29	72	25	80	38	81	35	84	43	75	46	48	44	81	50	71	35	68	45	70	58	76	35	81	48	78	48
12...	70	30	72	27	80	45	76	32	84	50	74	45	47	44	84	54	70	36	63	50	63	59	76	35	83	47	77	48
13...	65	31	70	27	72	46	66	29	89	55	72	46	55	45	75	45	71	40	65	50	54	39	71	36	74	46	65	49
14...	71	29	66	34	75	45	66	46	82	57	64	51	59	46	70	51	60	39	66	49	47	43	63	36	71	52	59	48
15...	60	31	62	40	77	43	63	41	83	57	64	43	64	45	70	46	62	34	64	44	44	64	31	68	44	65	47	
16...	63	29	66	27	77	42	65	44	88	52	67	46	60	50	73	48	67	36	71	50	53	46	67	34	75	46	68	47
17...	70	33	67	38	78	48	63	41	77	59	71	51	66	51	74	54	69	42	70	54	60	45	72	44	68	50	75	50
18...	63	42	64	44	80	48	60	42	82	56	71	51	60	47	77	57	69	43	79	54	55	43	62	49	73	50	68	55
19...	60	43	60	40	80	47	56	41	85	52	70	51	55	49	75	53	69	52	62	53	45	43	78	53	55	50	73	50
20...	65	30	53	36	79	44	53	40	86	52	57	51	56	48	73	54	66	50	63	51	47	44	51	35	74	49	55	48
21...	50	31	58	34	83	43	47	42	88	50	55	50	54	48	74	47	65	46	63	49	46	38	55	40	80	46	54	47
22...	54	32	56	32	70	43	50	37	75	54	68	45	55	42	64	46	57	44	60	49	44	36	48	34	63	47	57	45
23...	56	30	43	26	67	34	46	32	76	46	59	38	50	41	59	43	63	35	62	50	43	34	46	32	64	45	54	38
24...	40	21	46	24	68	34	55	25	79	42	57	40	49	35	62	38	63	26	63	46	46	34	54	30	66	36	60	37
25...	38	19	55	22	66	40	56	26	71	50	60	38	51	38	61	45	56	36	57	47	47	37	55	27	63	40	62	40
26...	40	21	48	29	64	40	43	36	72	42	54	42	55	44	61	42	57	29	60	46	41	35	44	34	65	43	51	44
27...	53	19	53	30	65	38	51	36	72	44	54	40	51	43	54	44	54	31	51	41	44	34	53	36	68	44	60	44
28...	54	29	53	30	64	38	61	31	71	40	62	40	52	45	61	44	62	31	62	44	54	40	61	29	77	44	68	43
29...	53	26	61	19	70	34	72	32	81	40	71	45	53	44	60	52	69	38	66	46	60	47	71	29	77	44	74	46
30...	53	28	70	23	76	35	76	39	80	49	71	46	52	46	78	48	72	40	79	53	67	56	72	32	88	45	78	48
31...	51	25	67	25	77	37	74	39	86	48	73	47	52	48	81	50	73	34	79	55	68	57	74	35	82	46	74	50
Mns.	56.6	28.3	60.7	29.1	75.6	41.2	64.0	36.2	83.8	49.1	67.5	45.3	54.3	44.8	71.9	47.7	67.9	38.6	67.8	50.2	56.2	45.5	65.6	35.2	73.0	46.3	67.5	47.9

Date.	California.																										
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Siskiyou.		Stockton.		Summit.		Susanville.		Yosemite.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1...	89	49	69	50	61	47	70	48	71	49	82	63	80	48	73	42	55	37	67	49	44	40	60	34	68	30	
2...	89	50	74	52	69	50	74	51	76	46	84	64	82	46	75	45	62	32	70	43	44	34	61	33	68	31	
3...	89	55	74	51	73	56	64	49	75	44	80	48	80	45	70	41	62	32	74	47	51	32	61	30	68	32	
4...	88	48	67	47	63	51	55	47	64	45	65	45	63	45	63	46	60	44	66	46	46	42	60	30	68	29	
5...	83	46	68	46	60	48	65	47	66	39	76	46	65	44	68	37	57	25	68	44	52	40	61	27	69	28	
6...	81	42	68	48	60	50	59	46	64	40	68	42	56	43	63	39	58	27	67	42	40	32	60	30	59	30	
7...	68	40	71	45	60	51	61	45	66	41	67	44	54	51	60	37	60	30	67	42	51	34	61	29	68	29	
8...	62	41	73	46	58	52	69	49	72	37	75	44	59	50	77	40	60	30	68	46	40	38	60	29	68	29	
9...	69	44	75	52	60	53	77	50	77	42	61	43	58	50	80	41	64	38	70	46	46	35	60	29	68	28	
10...	82	40	77	52	62	54	56	47	73	44	63	48	63	51	74	36</td											